

IN THE CLAIMS:

The listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently amended) An apparatus, comprising:
a carrier substrate having a visible surface and a heat generating component coupled to the carrier substrate; and
a thermochromatic material disposed near adjacent to the carrier substrate, the thermochromatic material to produce a visual change of the visible surface when an activation temperature of the thermochromatic material is reached to indicate an area of the carrier substrate that is above an operating temperature caused by a dissipation of heat from the heat generating component.
2. (Original) The apparatus of claim 1, wherein the carrier substrate comprises a printed circuit board.
3. (Original) The apparatus of claim 2, wherein a solder mask material is part of the visible surface.
4. (Original) The apparatus of claim 1, wherein the thermochromatic material comprises a leucodye to change from a first color to a transparent state.
5. (Original) The apparatus of claim 1, wherein the thermochromatic material comprises N-isopropylacrylamide to change from a first color to a transparent state.
6. (Original) The apparatus of claim 1, wherein the thermochromatic material comprises a liquid crystal to change from a first color to a second color.
7. (Original) The apparatus of claim 3, wherein the thermochromatic material comprises a layer above the solder mask.

8. (Currently amended) The apparatus of claim 3, wherein ~~solder~~ the solder mask material comprises a first transparent layer, and wherein the thermochromatic material further comprises a second layer disposed below the first transparent layer.
9. (Original) The apparatus of claim 1, wherein the carrier substrate further comprises component identification markings printed with the thermochromatic material.
10. (Currently amended) A printed circuit board, comprising:
a signal layer coupled to a heat generating component;
a solder mask layer disposed above the signal layer; and
a thermochromatic layer disposed ~~near~~ adjacent to the solder mask layer, the thermochromatic layer to change a visible surface of the printed circuit board from a first visible state to a second visible state to indicate an area of the printed circuit board that is above an operating temperature caused by a dissipation of heat from the heat generating component.
11. (Original) The printed circuit board of claim 10, wherein the first visible state comprises a first color and the second visible state comprises a second color.
12. (Original) The printed circuit board of claim 11, wherein the thermochromatic layer comprises a liquid crystal material.
13. (Original) The printed circuit board of claim 10, wherein the first visible state comprises a first color and the second visible state comprises a transparent state.
14. (Original) The printed circuit board of claim 13, wherein the thermochromatic layer comprises a leucodye material.
15. (Original) The printed circuit board of claim 13, wherein the thermochromatic layer comprises N-isopropylacrylamide.
16. (Original) The printed circuit board of claim 10, wherein the thermochromatic layer is disposed above the solder mask layer.

17. (Original) The printed circuit board of claim 10, wherein the solder mask layer is transparent, and wherein the thermochromatic layer is disposed below the solder mask layer.

18. (Original) The printed circuit board of claim 10, wherein the thermochromatic layer is integrated with the solder mask layer.

19. – 29. (Canceled)